

ABSTRACT

A strained silicon MOSFET utilizes a strained silicon layer formed on a silicon germanium layer. Strained silicon and silicon germanium are removed at opposing sides of the gate and are replaced by silicon regions. Deep source and drain regions are implanted in the silicon regions, and the depth of the deep source and drain regions does not extend beyond the depth of the silicon regions. By forming the deep source and drain regions in the silicon regions, detrimental effects of the higher dielectric constant and lower band gap of silicon germanium are reduced.